Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Charles Huskon No. 8 AUM Site

Navajo AUM Western Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

12767.063.599.1111

January 2011

Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: 167; 168

Map ID: ***167***: W77; ***168***: W76

CERCLIS: NNN000909087

Navajo Abandoned Mine Land Reclamation Program: ***167***: NA-0158B; ***168***: NA-0158A

Local name / Aliases: Huskon No. 8; Charles Huskon #8; Huskon #8

Chapter and local area: Cameron Chapter

County: Coconino **State:** Arizona

Lat/Long: ***167***: 35.7701169657 N / -111.364175635 W
168: 35.773717284 N / -111.366328583 W

Nearby road and highway: Highway 89 **Local Post Office:** Cameron, AZ

Surface Land Status: check one or more and provide ownership and contact information below

Tribal Trust Land	☒	**Public lands**	☐
Private	☐	**Tribal Fee Land**	☐
Bureau of Land Mgmt	☐	**Allotment**	☐
State	☐	**Fee land**	☐

Subsurface Mineral Rights:

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

The Charles Huskon No. 8 mine claim consists of 2 separate mine sites (#'s 167, 168). The mine claim surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as the Arrowhead Uranium Corporation in 1953, the Rare Metals Corporation from 1956 to 1957, and the Domino Mining Company from 1959 to 1960. No additional ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine: None

Estimated volume of mine waste onsite: ***167***: 503 yd^3
168: 506 yd^3

Part II Summary of radiological readings

Mine ID: 167

Highest gamma radiation measurement:

237,985 counts per minute (cpm)

Describe any other radiological measurements:

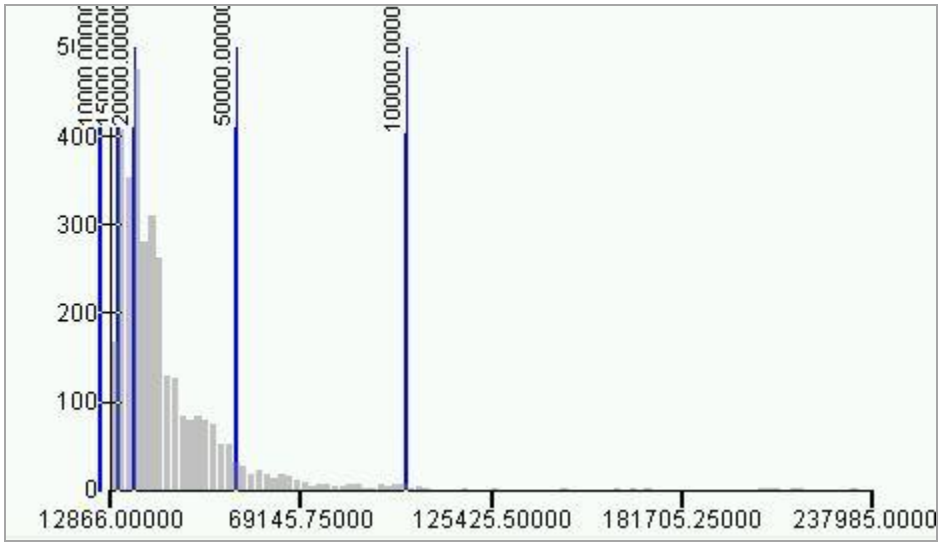
A total of 3,315 gamma radiation measurements were collected from the mine site, ranging from 12,866 cpm to 237,985 cpm. The measurements collected at the waste piles were found at maximum levels ranging from approximately 100,000 cpm to 240,000 cpm, and at the reclamation caps at maximum levels ranging from approximately 25,000 cpm to 100,000 cpm. The measurements are represented in Figures 1 and 2.

Background Readings: 14,507 cpm

Background Average: 14,507 cpm (mine claim background average was 17,751 cpm)

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	3315
Minimum:	12866.00000
Maximum:	237985.00000
Sum:	100131366.00000
Mean:	30205.54027
Median:	23922.00000
Standard Deviation:	22478.62095

Mine ID: 141

Highest gamma radiation measurement:

188,731 counts per minute (cpm)

Describe any other radiological measurements:

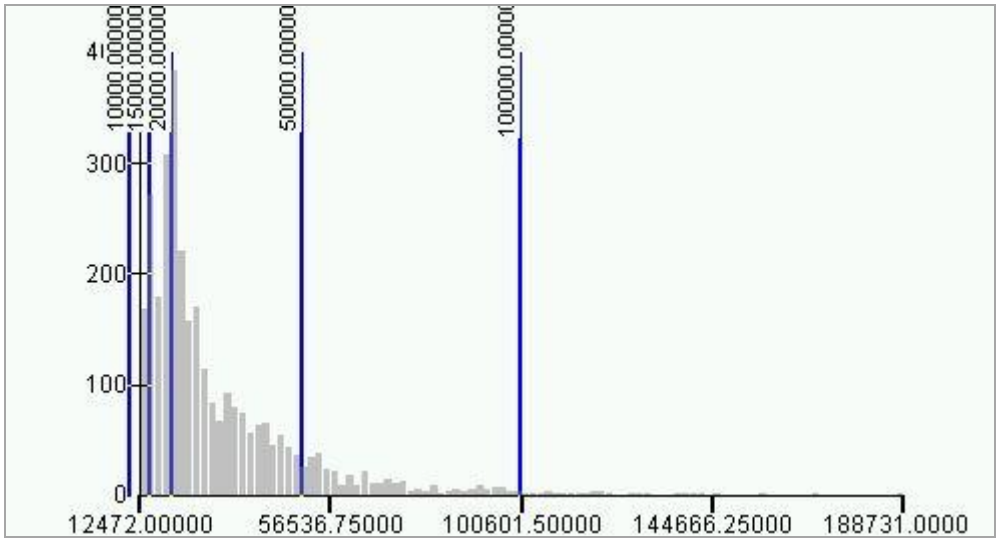
A total of 3,101 gamma radiation measurements were collected from the mine site, ranging from 12,472 cpm to 188,731 cpm. The measurements collected at the waste piles were found at maximum levels ranging from approximately 32,000 cpm to 190,000 cpm, and at the reclamation caps at maximum levels ranging from approximately 35,000 cpm to 60,000 cpm. The measurements are represented in Figures 1 and 2.

Background Readings: 20,994 cpm

Background Average: 20,994 cpm (mine claim background average was 17,751)

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	3101
Minimum:	12472.00000
Maximum:	188731.00000
Sum:	93794260.00000
Mean:	30246.45598
Median:	23331.00000
Standard Deviation:	18879.81613

Part III Status of Reclamation and Mine Waste

Mine ID: 167

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes **Waste Pile onsite :** No

NAMLRP Project Number: NA-0158B

NAMLRP Mine features: 1 Rim Strip / Pit

The following information was obtained from field observations collected during the 2010 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits
None

Waste Piles
3 waste piles: 1 - 50' x 30' x 7' grey mound; 2 - 7' diameter x 2.5' high grey mound with rock markers; 3 - 25' x 10' x 12' frey/tan mound at bottom of drainage beneath caps; N edge of reclamation cap exposed grey rock

Pits
None

Shafts
None

Other Debris and Mine Features
3 reclamation caps: 250' x 100 x 15' mound, red-brown sandy clay; 100' x 80' x 2' high mound, red-brown sandy clay; 450' x 150' x 20' mound, red-brown clay

Mine ID: 168

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes **Waste Pile onsite :** No

NAMLRP Project Number: NA-0158A

NAMLRP Mine features: 1 Rim Strip / Pit

The following information was obtained from field observations collected during the 2010 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits
None

Waste Piles
4 possible waste piles: 1 - offsite 30' diameter x 15' h mound; 2 - 30' diameter x 15' h mound; 3 - 30' x 10' x 4' grey mound; 4 - 45' x 15' x 8' grey mound

Pits
None

Shafts
None

Other Debris and Mine Features
2 reclamation caps; cap 1 - large cap near offsite debris, clay with uniform rocks; 2 - possible pit area with crescent berm, sandy clay

Part IV

Site observations and Environs

Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:

0 to 200 feet: None

200 feet to 0.25 mile: None

Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:

0 to 200 feet: None

200 feet to 0.25 mile: None

Levels measured around the perimeter(s) of the identified structure(s):

None

Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:

0 to 0.25 miles: None

0.25 miles to 4 miles: Windmill Well approximately 2.5 mi SW of the site; Little Colorado River Basin approximately 2 mi E of the site

Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.

None

Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.

Charles Huskon No. 8 mine claim consists of 2 separate mine sites (#'s 167, 168) with a total combined area of 102,782.24 m^2. The mine claim was identified as being operational from 1953 to 1960. Historical documents showed the operator of the mine as the Arrowhead Uranium Corporation in 1953, the Rare Metals Corporation from 1956 to 1957, and the Domino Mining Company from 1959 to 1960. While operational, the mine had a total production volume of 626 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Summary of Evaluation Factors:

Accessibility:

Was the mine easily accessible to potential human activity?
Yes

Radiological Measurements:

Were any gamma radiation measurements collected at the mine greater than two times the site-specific background levels?
Yes

Waste Piles:

Were any unreclaimed waste piles observed at the mine with gamma radiation measurements greater than two times the site-specific background levels?
Yes

Structures:

Were any structures observed within 200 feet of the mine?
No

Potential Drinking Water Sources:

Were any potential drinking water sources observed within 4 miles of the mine?
Yes

Reclamation:

Was the mine reported to be previously reclaimed, or did the mine appear to be reclaimed?
Yes (two reclamation caps)

Part VI Photos

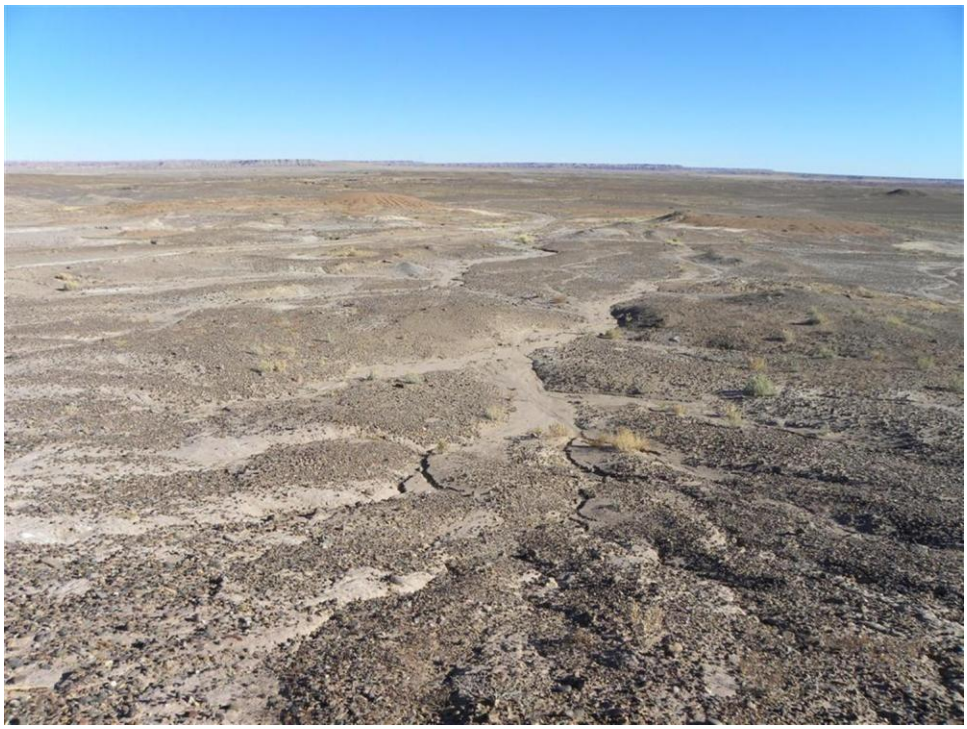


Photo 1. Charles Huskon No. 8, Site #167

Photo 2. Charles Huskon No. 8, Site #167, reclamation area

Photo 3. Charles Huskon No. 8, Site #167, waste pile

Photo 4. Charles Huskon No. 8, Site #167, waste pile

Photo 5. Charles Huskon No. 8, Site #167, mound

Photo 6. Charles Huskon No. 8, Site #168

Photo 7. Charles Huskon No. 8, Site #168, berm area

Photo 8. Charles Huskon No. 8, Site #168, berm/trench area

Photo 9. Charles Huskon No. 8, Site #168, berm area

Photo 10. Charles Huskon No. 8, Site #168, possible waste piles

Part VII Contacts Reports and Information

Name: Stanley Edison (928) 871-6861

Eugene Esplain (928) 871-7331

Title or official role (if any) Navajo EPA Superfund Program

Address___PO Box 2946, Window Rock, AZ 86515

Information provided Lead Regulatory Agency

Name_____

Title or official role (if any) _____

Address_____

Telephone number_____

Information provided_____

Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

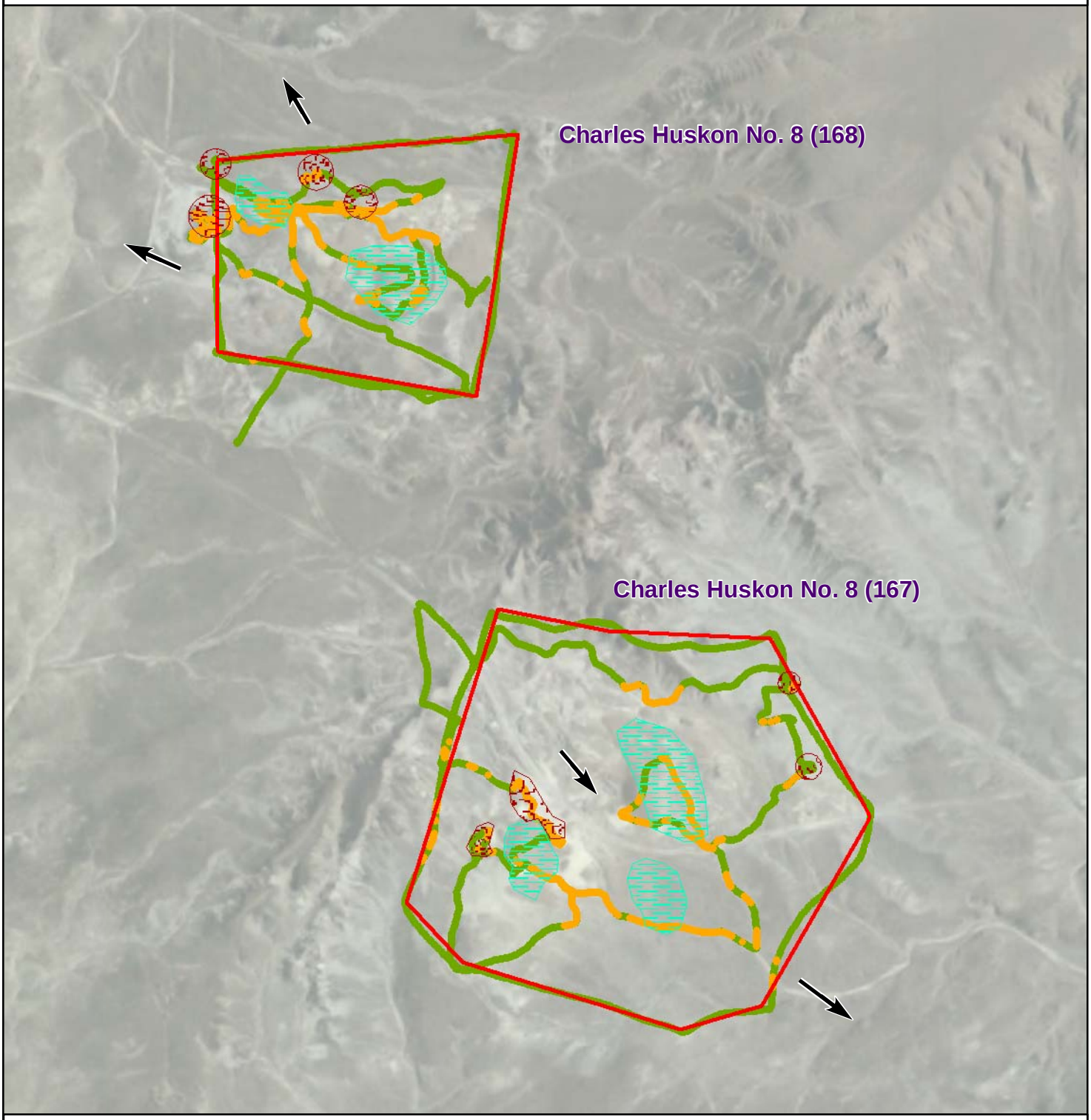
Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Charles Huskon No. 8 (167, 168)
Cameron Chapter, Navajo Nation



Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

Gamma survey conducted 11/2010
Measured as counts per minute (cpm)

Average background 17,751 cpm

- General Slope Direction
- Observed Waste Pile
- Observed Reclamation Area
- Mine Site Boundary

N

0 400 Feet

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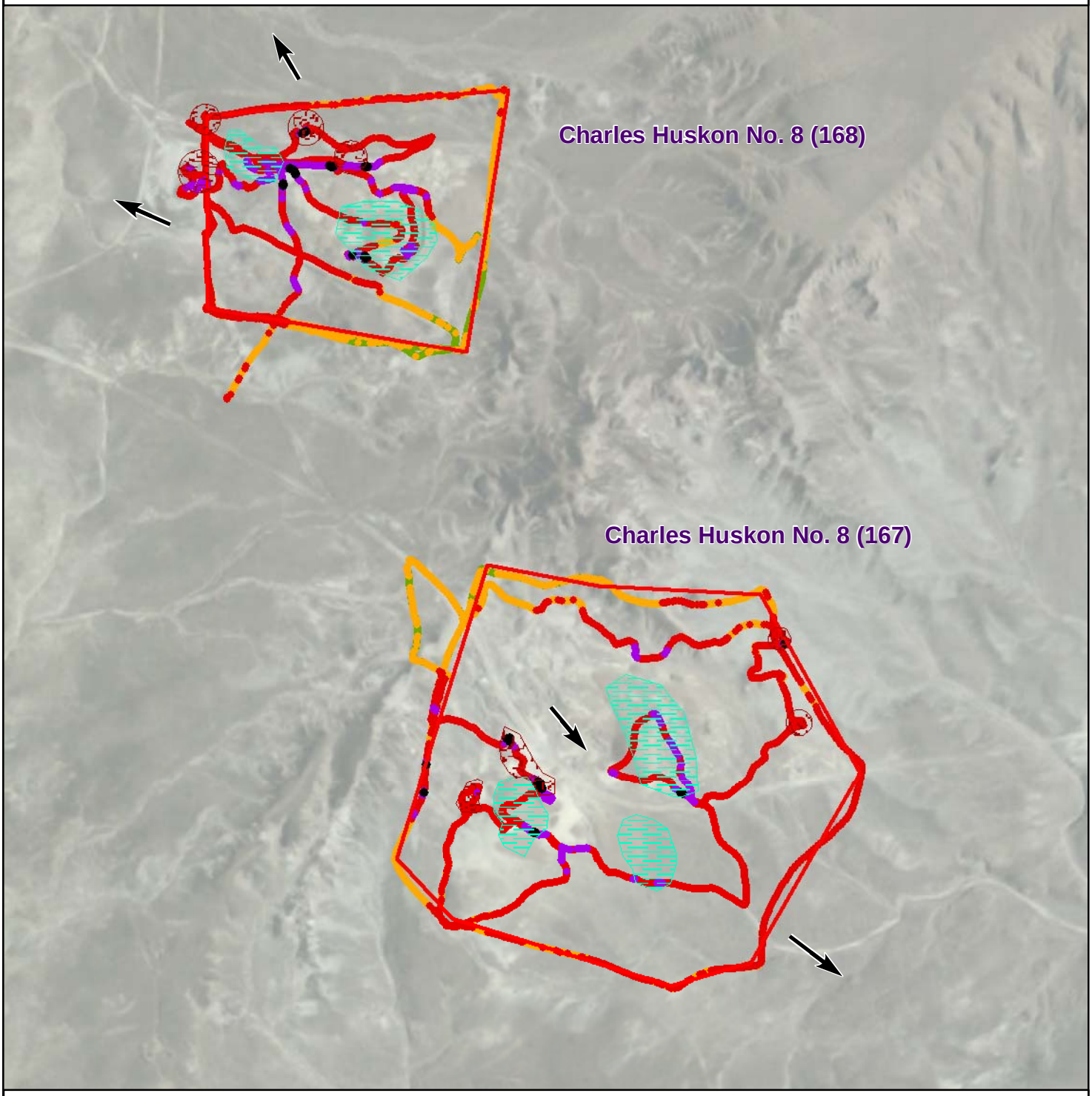
Figure 2 - Gamma Radiation Measurements
Charles Huskon No. 8 (167, 168)
Cameron Chapter, Navajo Nation



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

General Slope Direction

Observed Waste Pile

Observed Reclamation Area

Mine Site Boundary

Gamma survey conducted 11/2010
Measured as counts per minute (cpm)

Average background 17,751 cpm

N

0 400 Feet

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